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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,209	07/30/2001	Kiichi Kometani	Q65662	8364

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EXAMINER

SADULA, JENNIFER R

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,209

Applicant(s)

KOMETANI ET AL.

Examiner

Jennifer R. Sadula

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 12 is objected to because of the following informalities: Claim 12 appears to require dependency, otherwise there are numerous errors. Furthermore claim 12 recites the limitation of "1-300 ppm," whereas there is no support in the specification for this specific range. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Satoshi et al, Japanese Publication No. 07-070331 ("Satoshi"). For Applicant's ease an English translation of this document is provided.

Satoshi teaches a polyester particulate composition wherein the particle of the polyester resin is a principal component. With regard to claim 9, multiple-valued dicarboxylic acids may be used such as 2,6-naphthalene dicarboxylic acid (paragraph 0008). Sufonic groups, carboxyl groups, phosphoric-acid groups form the basis of a sulfonic acid alkali metal salt and thus a

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carboxylic-acid ammonium salt is preferred. Metal salts such as ammonium ions, Li, Na, K, Mg, Mg, Ca, Cu, Fe and Ni are used in addition to Co and Al (paragraph 0013). Specific sulfates are mentioned in paragraph 0018 wherein the sulfate concentrations are within the desirable range of 0.01 to 2.0 mol/L when using a univalent electrolyte. Average particle sphericity is mentioned in paragraph 0021. Lastly, as shown in the examples (see paragraph 0027) a dicarboxylic acid is combined with trimellitic acid and an alkali metal to improve the dyeability of the polyester resin as a whole.

Claims 1-2 and 5-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al, U.S. Patent No. 6,258,921 ("Park").

Park teaches easily dyeable polyesters prepared via esterification of a dicarboxylic acid and a glycol wherein the polyester polymer is then extruded and the obtained product is cut to certain lengths to form polyester chips (1:26-58). The content of the inert microparticles may be usually 0.001 to 2 pbw based on the weight of the polyester and having an average particle size of 0.005 to 8.0 μm . Microparticles can be organometallics (alkali metal or alkaline earth metals) and be internal deposited particles such as calcium carbonate, silica, magnesium oxide, zinc oxide, assorted sulfates, and alumina (3:59-4:7). Polyfunctional cross-linking agents such as trimellitic acid may also be added to the polyester (4:8-15 and example 3 for amounts).

Claims 1-2, 4-5 and 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohbe et al, U.S. Patent No. 6,296,930 ("Ohbe").

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Ohbe teaches aromatic liquid crystalline polyester resins and compositions comprising them wherein the resin comprises polyesters as specified in columns 4-5 such that, with regard to claim 13 the repeating unit A represents applicants' formula III; the repeating unit B represents applicants' formula II; and the repeating unit C represents applicants' formula I, which is a derivative of an aromatic dicarboxylic acid unit. These units are derived from naphthoic acids in order to gain naphthoic mesogenic units. The materials may be produced into rubber-like materials via an emulsion polymerization method utilizing alkali metal catalysts as detailed in column 13, lines 63-67. Furthermore, transitional metal catalysts, such as cobalt and manganese, can be used in the polymerization process as well (10:6-12). As such the Examiner interprets these catalysts as remaining in the produced material as residual and thereby anticipating the applicant's limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoshi, as applied above, in view of Ohbe.

Satoshi teaches a polyester particulate composition wherein the particle of the polyester resin is a principal component wherein (see paragraph 0027) a dicarboxylic acid is combined with trimellitic acid and an alkali metal to improve the dyeability of the polyester resin as a

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whole. Metal salts such as ammonium ions, Li, Na, K, Mg, Mg, Ca, Cu, Fe and Ni are used in addition to Co and Al (paragraph 0013). However, Satoshi fails to teach the prepared materials for use as a liquid crystal composition.

Ohbe teaches aromatic liquid crystalline polyester resins and compositions comprising them wherein the resin comprises polyesters as specified in columns 4-5 such that, with regard to claim 13 the repeating unit A represents applicants' formula III; the repeating unit B represents applicants' formula II; and the repeating unit C represents applicants' formula I, which is a derivative of an aromatic dicarboxylic acid unit. These units are derived from naphthoic acids in order to gain naphthoic mesogenic units. These materials coincide with the prepared materials of Satoshi as noted above.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to make the materials of Satoshi, via the techniques and starting materials of Satoshi, and produce the materials of Ohbe for the liquid crystalline pursuits of Ohbe as Ohbe teaches the materials to have excellent low temperature processability in a liquid crystalline format.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kawaki et al. '474 teaches an aromatic dicarboxylic acid resin composition for use in liquid crystal compositions.

Alanko et al. '541 teaches liquid crystalline copolyesters utilizing aromatic dicarboxylic derivatives and trimellitic acid derivatives.

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Deex teaches liquid crystal copolyesters as specified by claim 13 wherein naphthalene dicarboxylic acids are utilized as starting materials.

Toya (EP) teaches a high-density medium consisting essentially of a cholesteric liquid crystalline polyester coinciding with applicants claim 13 wherein naphthalene dicarboxylic acids are utilized as starting materials. No such teaching is found of catalysts.

Motooka et al, '087, teaches wholly aromatic polyesters and processes for preparing such wherein naphthalene dicarboxylic acids are utilized as starting materials. No such teaching is found of catalysts.

Asada et al (JP) teaches a wholly aromatic polyester resin composition containing one or more alkaline metallic salts of carboxylic acid as a starting material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer R. Sadula whose telephone number is 703.305.4835. The examiner can normally be reached on Monday through Friday, 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 703.308.2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9310 for regular communications and 703.872.9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.

JRS
July 07, 2003


MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700